

Dear Joshua,

Thanks for the info concerning the substrate range of your K-12. Clifton's original I had long ago perceived to be s^+ since he has a paper in J. Bact. using it in assimilation studies with succ and fum.

The ATCC (W) strain I never tested.

Strain 15 (Ryan's parent for the H- work, Roenke, Libby, Small, I believe isolated the original h- mutant), a prototrophic histidine independent reversion, was s^+ .

Strain B (from Ryan again - and prototrophic) has a peculiar behaviour:

at hi dilution (100-500 per plate) it forms microcolonies which never blossom forth

at intermediate dilutions it performs not at all

at lo dilutions (10 to 9th to 10 to 7th per plate) it gives some macrocolonies - frequency of about 0.5×10^{-6} - which:

increase in number from 72 hours to 144 hours after which the number remains steady - increase is by factor of 3 (to freq of 1.5×10^{-6})

do not follow a linear dilution but seem to show inhibition at higher concentrations (see Ryan and Schneider - Genetics paper on reversions in a batch of auxotrophs - same thing occurs

There is no use going into the various ideas I have to explain this (or rather to test the ideas).

Incidentally, fumaric acid as usually obtained, is a fermentation product so one has to be careful about residual growth, etc.

Enclosed is some data on crosses with the s strains. It may be of interest to note that crosses of $s^+ \times s^+$ (which give s^+) show a double distribution of s^+ streaks - weak and strong, probably reflecting different assimilatory abilities. Quantitative work on this is meager and no crosses were performed with these.

The stocks should have arrived by now - Famous Chocolate Wafers little realizes the boon it confers upon bacteriologists. I will not guarantee the purity of any of the stocks - I haven't purified them since last spring and they have gone thru several transfers and resuscitations necessitated by lo humidity conditions in ice-boxes and trains.

I await with trepidation your reading of the MS. The nomenclature change is OK by me.

Sincerely,

Jim C